

In this Reply, no claims have been amended, added or cancelled. No matter has been added.

Applicants' Reply filed on July 22, 2003 included reasoning regarding why the carbon foam material disclosed by U.S. Patent No. 3,859,421 to Hucke could not have significant graphite content. The reasoning was based on the Hucke's disclosed Mohs hardness being greater than 7, as compared to the Mohs hardness of graphite being 1 to 2. As noted previously, the Mohs scale runs from 1 to 10, with 10 being the hardest. Thus, Applicants' July 22, 2003 Reply concluded that Hucke's foam having a Mohs' hardness of 7 could not be the claimed "essentially graphitic" foam. However, in the Office Action the Examiner asserted that essentially graphitic foam of the claimed invention may be the same as that foam disclosed by Hucke based on the following reasoning:

The [Hucke] carbon foam may be hard due to the oxides used to promote graphitization. Due to the similarity to what is claimed, it appears that the graphite is the same. A showing of the properties resulting from varying the amount of oxide would be appropriate.

Despite considerable effort, Applicants have been unable to provide a reference or data that shows the foam properties resulting from varying the amount of oxide. However, as explained below and corroborated by Dr. Klett's testimony, the amount of oxide in the foam material prior to a "graphitization" step is not relevant to post graphitization foam properties since the metal oxides (if present) vaporize essentially entirely during "graphitization".

A Rule 132 Declaration from inventor Dr. Klett accompanies this Reply and is labeled Attachment "A". The oxides referred to by the Examiner above disclosed by Hucke (col. 29, lines 1-5) are metal oxides (e.g. TiO_2 , Cr_2O_3 , etc.) fillers which when mixed in the initial fluid mixture are described as catalyzing the "graphitization reaction. The Declaration provides sworn testimony that establishes that the metal oxides following "graphitization" are no longer present

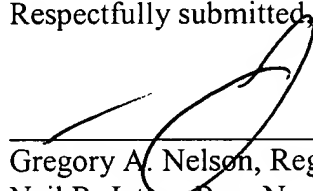
in a concentration sufficient to significantly affect the mechanical properties of Hucke's final carbon foam material because they volatilize during graphitization, principally into CO₂ (gas). Therefore, the Mohs hardness of 7 disclosed by Hucke is good evidence of the lack of appreciable graphitic content of Hucke's carbon foam, not the presence of oxides together with the claimed "essentially graphitic material." Accordingly, claim 56 which recites a carbon foam containing a phase change material in at least some of its pores, wherein the foam is an essentially graphitic carbon foam, and all claims dependent thereon, are patentable over the cited art.

Applicants have made every effort to present claims which distinguish over the cited art, and it is believed that all claims are in condition for allowance. However, Applicants invite the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance.

No fees are believed due with the filing of the above Reply. However, the Commissioner for Patents and Trademarks is hereby authorized to charge any deficiency in any fees due with the filing of this paper or credit any overpayment in any fees paid on the filing, or during prosecution of this application to Deposit Account No. 50-0951.

Respectfully submitted,

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